National Digital Mammography Archive

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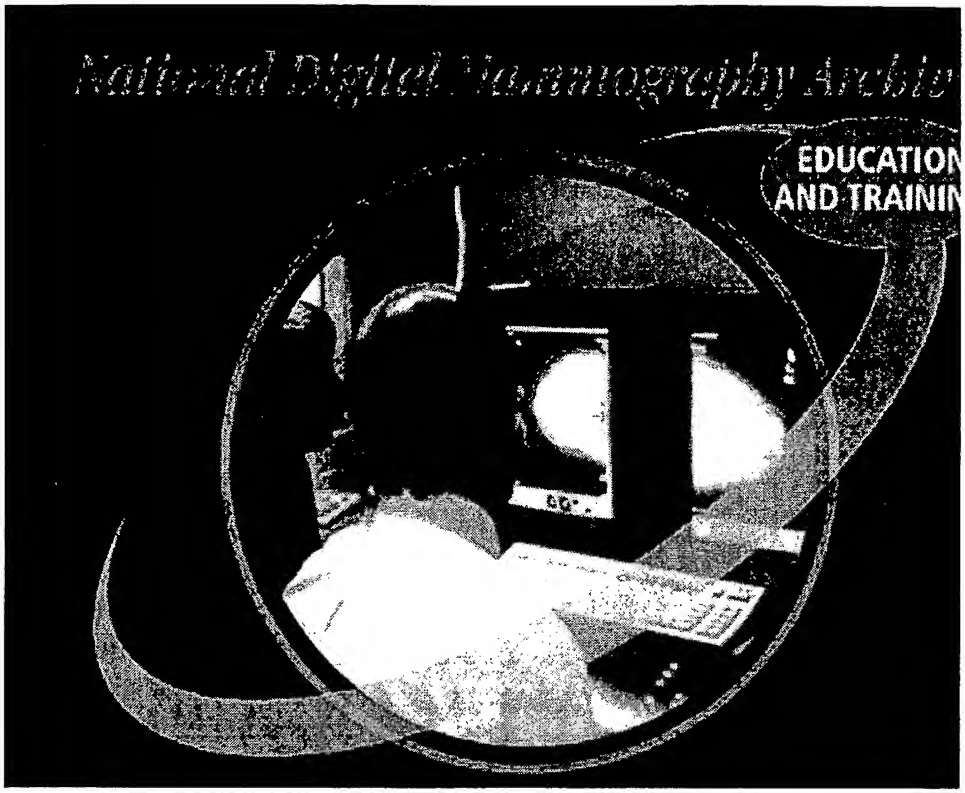
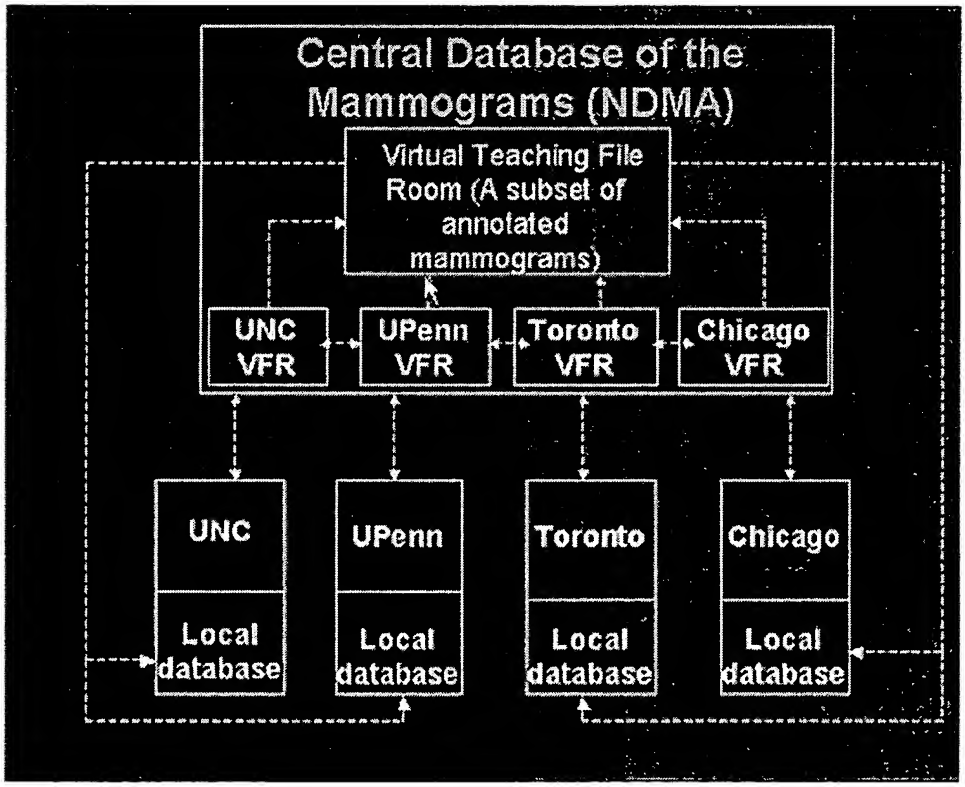
Education

- Rationale for Tele-Education
- Benefits
- Components
  - Annotation Tool
  - Training Tool
  - Testing Tool

Rationale for Tele-Education

Currently, teaching cases for the training of radiologists and mammographers are developed on an as-needed basis and generally created and maintained locally. T process necessarily limits exposure to interesting cases to the population served l medical center or area. Some areas are not as demographically diverse to accour difference between ethnic groups, population ages or other factors. If radiologists have a way to annotate their digital mammogram images with specific location dat based on pathology reports and other data, upload them to the ndma, and access later, they could create an annotated case file for teaching, testing, and advanced training and make these images available to other sites. They could call on the ric of the data in the archive for interesting cases not otherwise readily available in th area.





Virtual Teaching File

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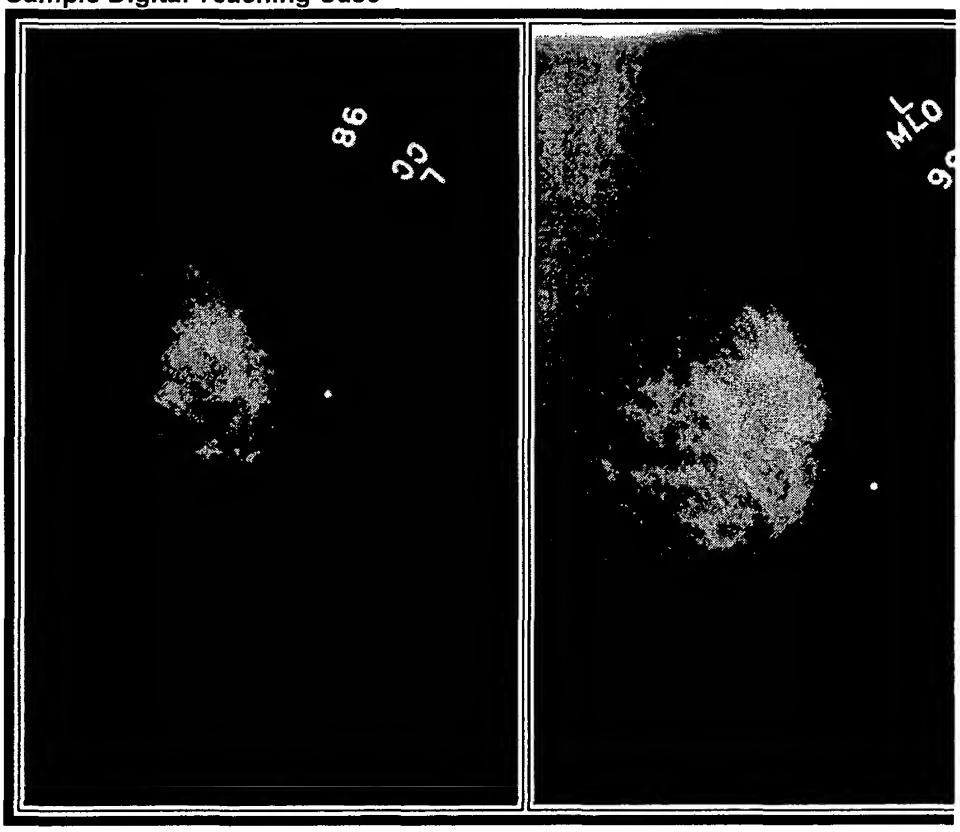
Benefits

The large number of cases and rapid network access of the national archive will a queries to rapidly generate images with specific findings for comparison to an examination being interpreted. The national image archive will generate a nationa teaching file, providing all training programs with equal access to critical teaching material. In addition, stratified clusters of cases could be generated in an automat fashion for testing progress of trainees.

- Web-based tool to annotate images and create annotated case file for arch
- Query archive for annotated cases based on BiRads lexicon
- Create teaching cases for residents and radiologists wanting to improve the skills
- Provide immediate feedback on teaching cases with links to annotations ar pathology data
- Provide scores for testing without immediate feedback
- Permit large numbers of annotated cases to be brought down to local sites training and testing purposes
- Make cases available to other sites

Sample Digital Teaching Case



The case provided is a calcifications case. Path proven Ductile Carcinoma in Situ (DCIS). Lesion located at the 12 o'clock position central left breast.

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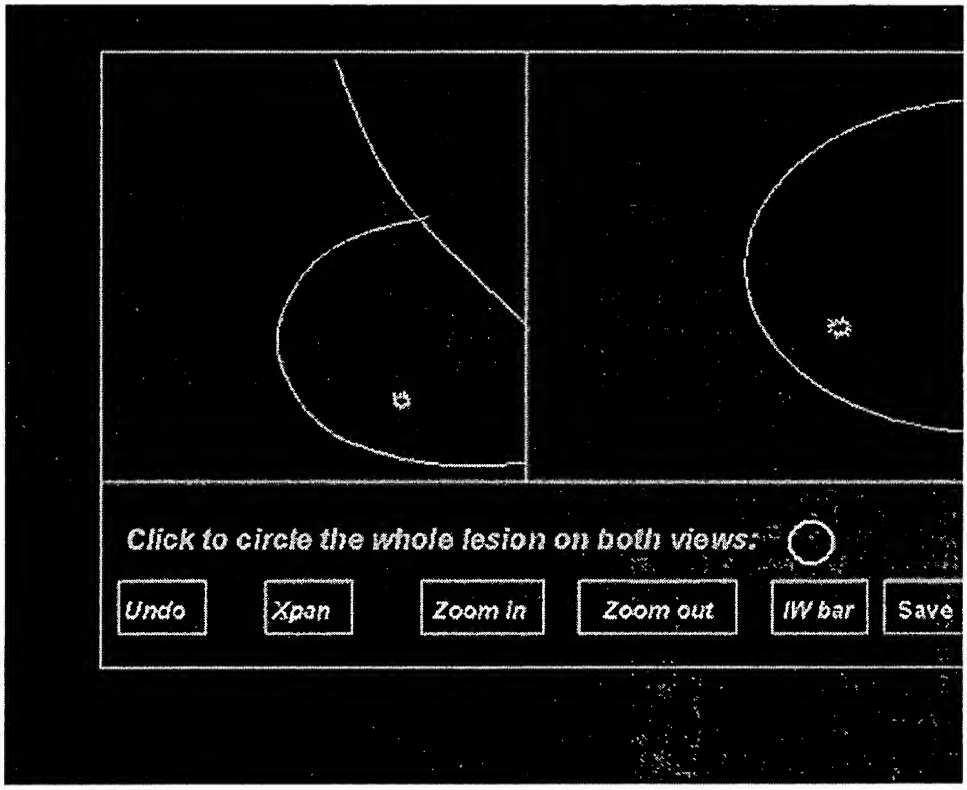
Components

There are three components associated with this application:

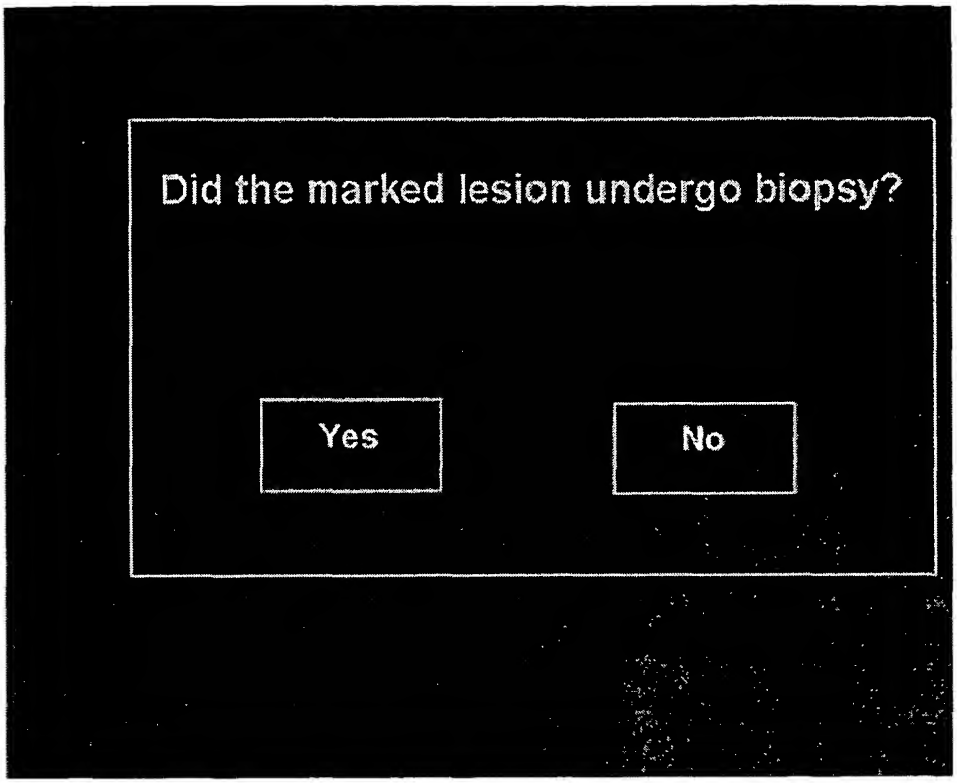
- Annotation and entry of cases into a Virtual Teaching File (Annotation Tool
- Training Tool
- Testing Tool

Annotation Tool

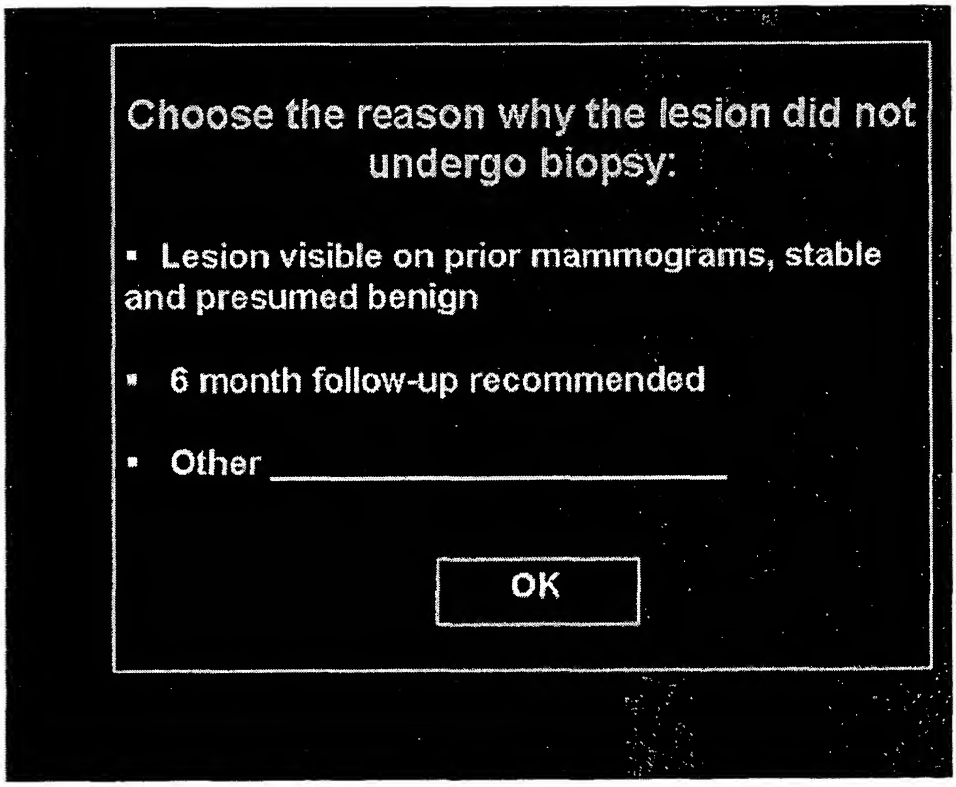
- At local sites
- Web-based
- Smart Card protected



Sample Annotation Screen



Sample Annotation Content

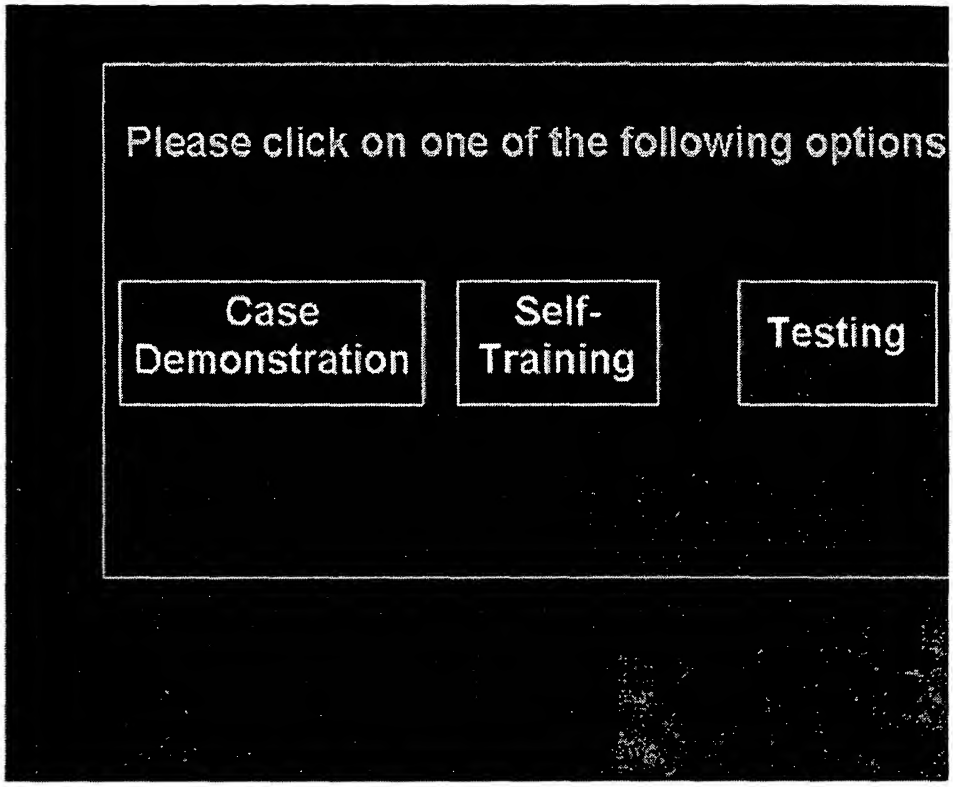


Annotation Comments

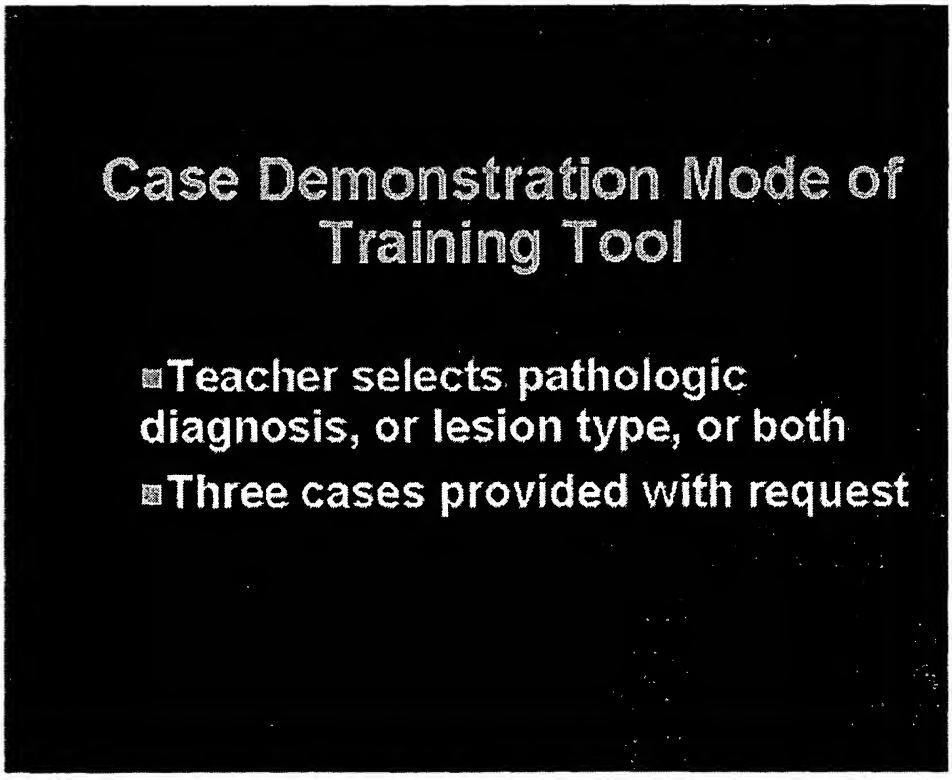
Training Tool

- Will utilize GE workstation

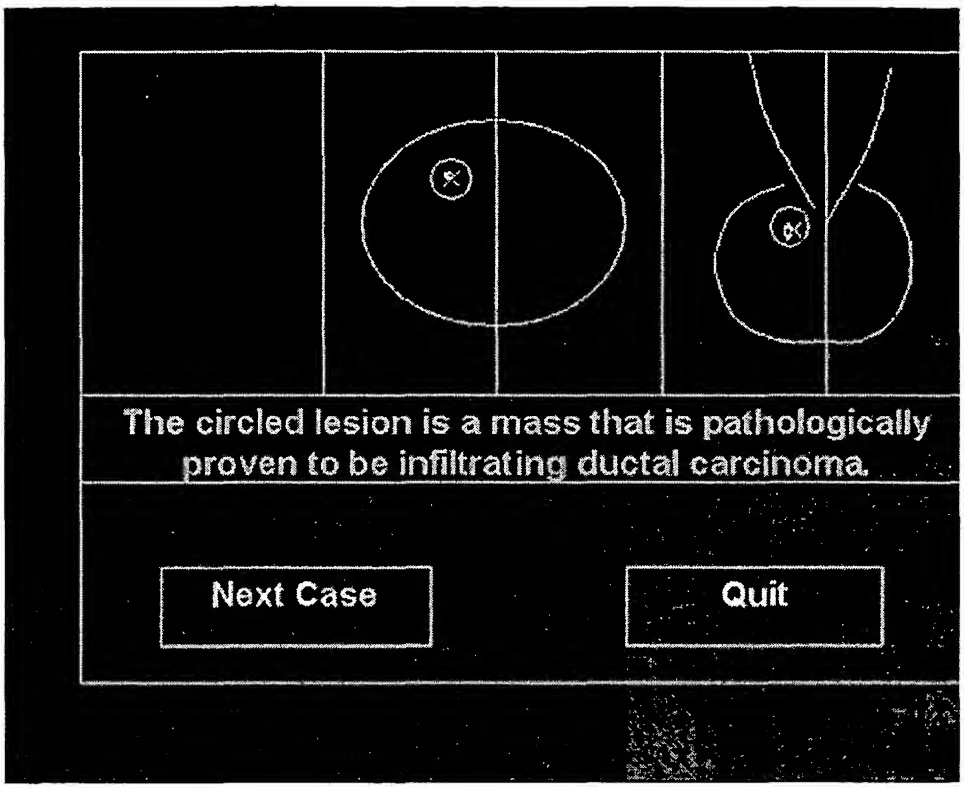
- Smart Card protected
- Two modes:
  - Case demonstration by teacher
  - Computer-generated case sets



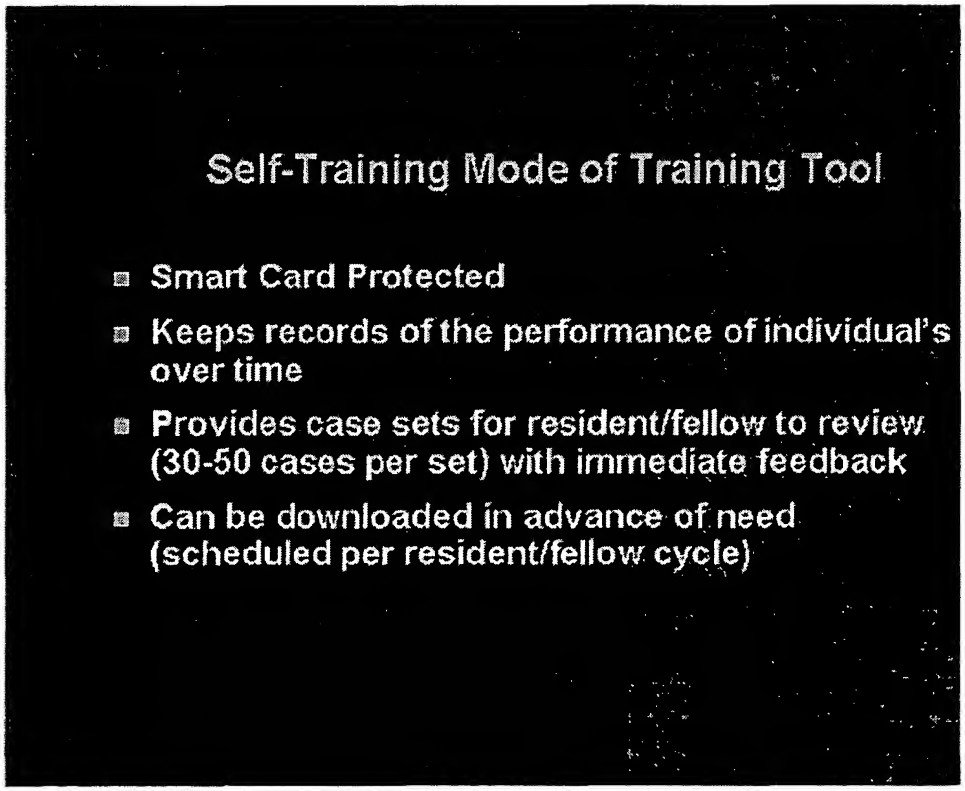
Three Options for Teaching/Testing



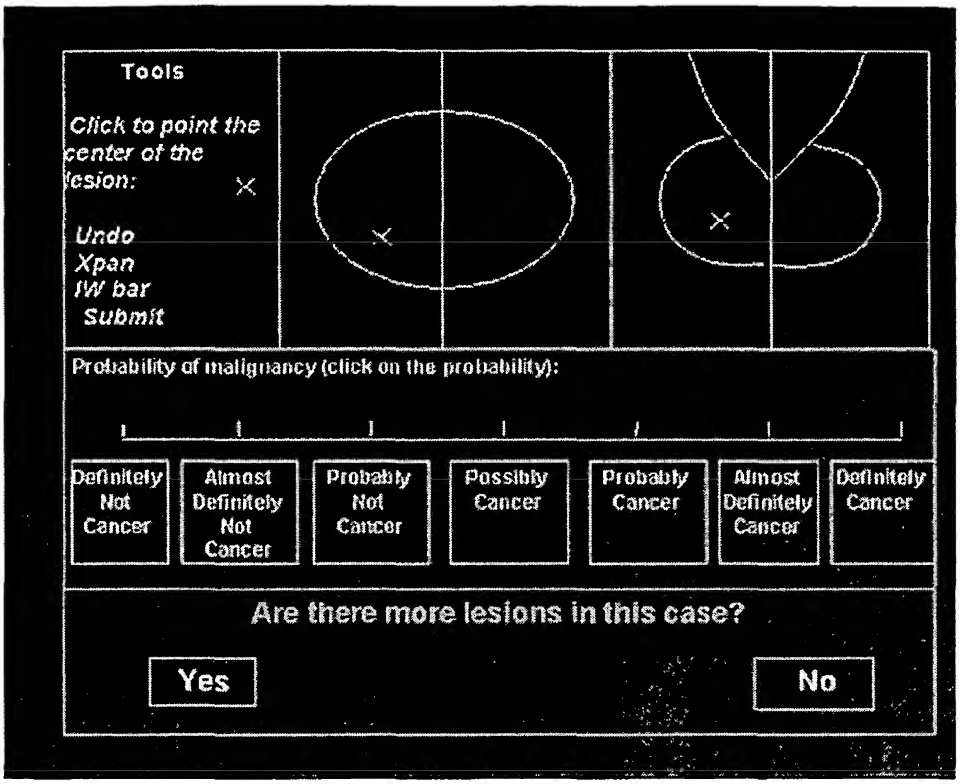
Case Demonstration Mode



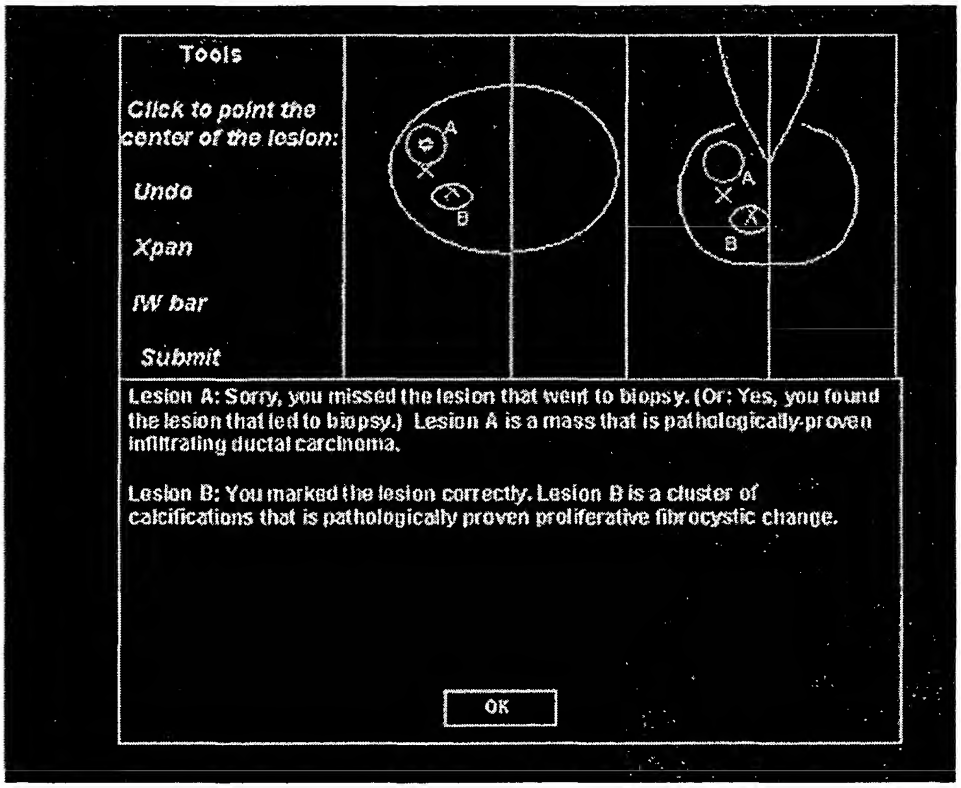
Sample Case Demonstration Screen



Self-Training Mode

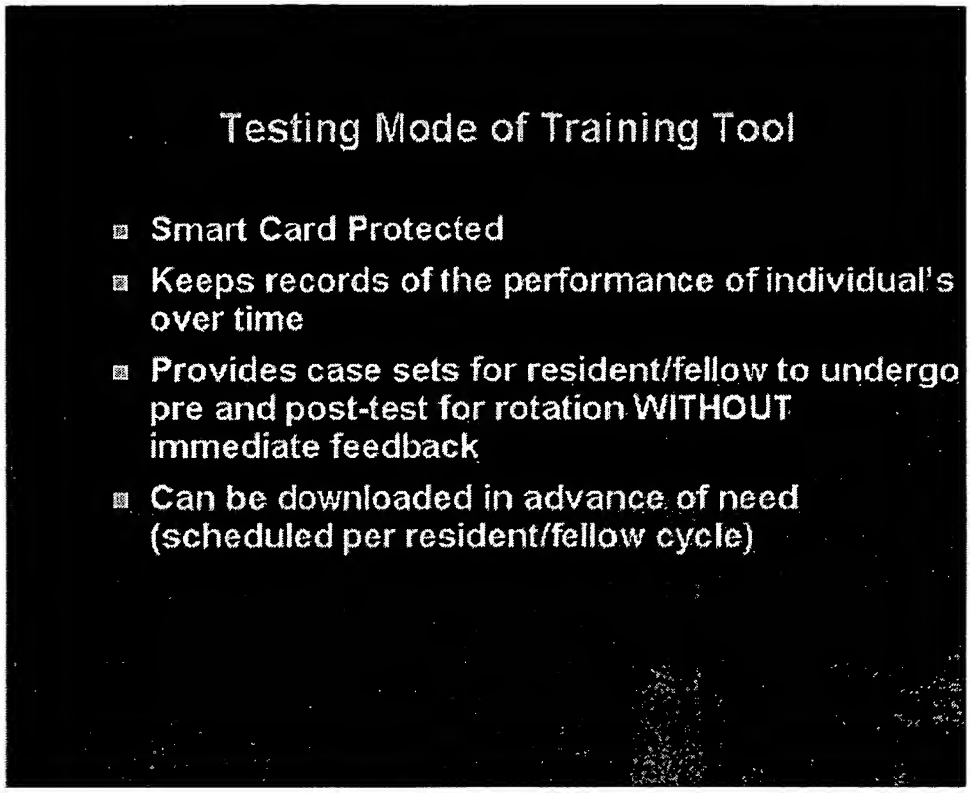


Sample Training Screen

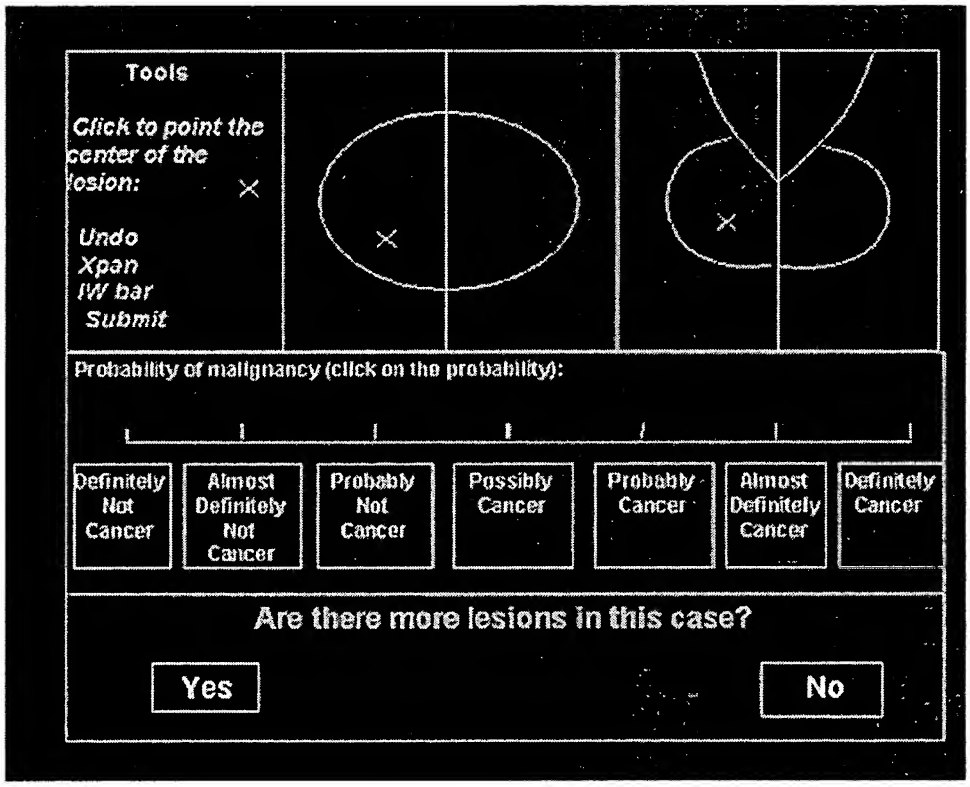


Trainee Receives Immediate Feedback

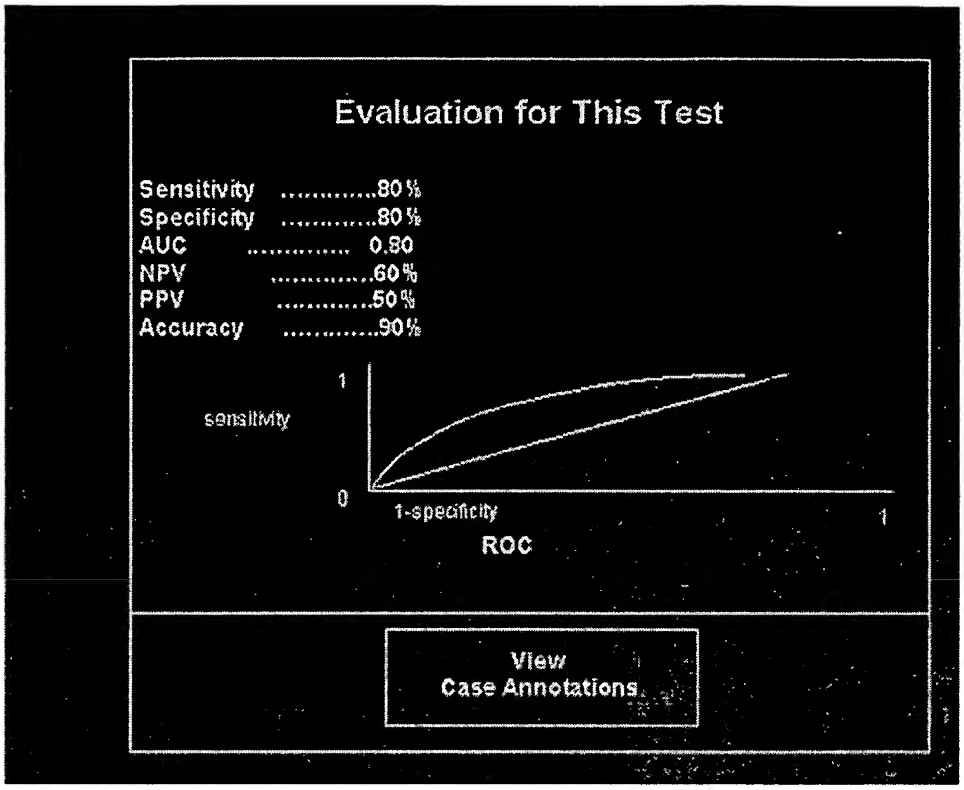
Testing Tool



Testing Mode



Sample Test Screen



Show Test Results

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